Circuit Board Modules ASi, PCB Solutions safe

ASi Safety Circuit Board Module

Connection of 2 safe switching contacts

(figure similar)

Figure	Type	Inputs Safety, SIL 3, cat. 4	Outputs digital	Safety signal inputs	Connection [1]	Coating [2]	ASi address [3]	Article no
	circuit board 43mm x 30mm	1 x 2 channels	2 x electronic	floating contacts	connecting wires, 100 mm	yes	1 Single Slave	**BWR2426**
	circuit board 43mm x 30mm	1 x 2 channels	2 x electronic	floating contacts	connecting wires, 200 mm	yes	1 Single Slave	**BWR3067**
	circuit board 43mm x 30mm	1 x 2 channels	2 x electronic	floating contacts	connecting wires, 100 mm + contact pins	yes	1 Single Slave	**BWR2521**
	circuit board 73mm x 37,5mm	1 x 2 channels	2 x electronic	floating contacts	plug-in screw terminals	no	1 Single Slave	**BWR1896**
	circuit board 73mm x 37,5mm	1 x 2 channels	2 x electronic	floating contacts	screw terminals	no	1 Single Slave	**BWR1751**

(1) **Connection**: further connection options are available on request.

screw terminals nominal cross section 0,5 mm^2	**wiring pins** contact spacing 2,54 mm	**solder lugs** contact spacing 2,54mm	**socket board** nominal cross section 0,65 mm^2	**plug-in spring type terminals** nominal cross section 0,5 mm^2	**connecting wires** nominal cross section 0,34 mm Length 100 / 200 mm (other lengths available on request)
					

(2) **Coating**: Coating protects components and circuit boards when touched.

thin coated	**thick coated**
	

(3) **ASi address**: AB slave (max. 62 AB slaves/ASi network), 2 AB slaves (max. 31 modules with 2 AB slaves), single slaves (max. 31 single slaves/per ASi network), mixed use allowed (**upon request, slaves are available with specific ASi Slave profiles**).

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Article no.	BWR1751	BWR1896
Connection		
Connection	screw terminals	plug-in screw terminals
Length of connector cable	I/O: max. 15 m (1)	
ASi		
Profile, S-IO.ID.ID2	S-7.B.0	
Address	1 single slave	
Required Master profile	≥ M0	
Since ASi specification	2	
Voltage	22 .... 31,6V	
Max. current consumption	< 80 mA	
AUX		
Voltage	24 V (20 ... 30 V_{DC}) (PELV)	
Max. current consumption	1,5 A at output short-circuit	
Input		
Number	1 x 2 channels	
Safety signal	floating contacts	
Power supply	out of ASi	
Switching threshold	U_{in} < 2 V low, U_{in} >10 V high	
Max. loop resistance (switch)	200 Ω	
Output		
Number	2, electronic, short-circuit protected	
Power supply	out of AUX	
Max. output current	100 mA per output	
Display		
LED FLT (red)	ASi communication error	
LED ASi (green)	ASi voltage	
LED S1, S2 (yellow)	state of safe inputs	
LED Out1, Out 2 (yellow)	state of outputs	
UL Recognized Component		
In general	ЯU mark does not provide UL certification for any functional safety rating or aspects of the above devices	
External protection	The input to the devices need to be provided with a fuse rated 4A max or else the devices need to be powered from a class 2 or a SELV limited power source.	
Environment		
Applied standards	EN 60529 EN 61000-6-2 EN 61000-6-4 EN 62061 SIL 3 EN ISO13849-1 PLe	
Ambient temperature	-30 °C ... +70 °C (2)	
	no condensation permitted	
Storage temperature	-25 °C ... +85 °C	
Protection category	IP00	
Coated	no	
Allowable shock and vibration stress	≤15*g*, T ≤11 ms 10 ... 55 Hz, 0,5 mm amplitude	
Weight	27 g	
Dimensions (W /H / D in mm)	73 / 37,5 / 12	

(1) loop resistance: ≤ 150Ω

(2) temperature range up to -30°C from Ident.No. ≥16290 (BWR1896); Ident.No. ≥16291 (BWR1751)

Article no.	BWR2426	BWR3067	BWR2521
Connection			
Connection	connecting wires, 100 mm	connecting wires, 200 mm	connecting wires, 100 mm + contact pins
Length of connector cable	I/O: max. 15 m (2)		
ASi			
Profile, S-IO.ID.ID2	S-7.B.0		
Address	1 single slave		
Required Master profile	≥ M0		
Since ASi specification	2.0		
Voltage	22 .... 31,6 V		
Max. current consumption	< 120 mA		
Input			
Number	1 x 2 channels		
Safety signal	floating contacts		
Power supply	out of ASi		
Switching threshold	U_{in} < 2 V low, U_{in} >10 V high		
Max. loop resistance (switch)	100 Ω		
Output			
Number	2 x electronic (3)	2 x electronic	
Power supply	out of ASi		
Max. output current	20 mA per output, ∑ (outputs) ≤ 40 mA		
Display			
LED FLT (red)	ASi communication error		
LED ASi (green)	ASi voltage		
LED S1, S2 (yellow) (1)	state of safe inputs		
LED Out1, Out 2 (yellow)	state of outputs		
UL Recognized Component			
In general	ЯU mark does not provide UL certification for any functional safety rating or aspects of the above devices		
External protection	The input to the devices need to be provided with a fuse rated 4A max or else the devices need to be powered from a class 2 or a SELV limited power source.		
Environment			
Applied standards	EN 60529 EN 61000-6-2 EN 61000-6-4 EN 62061 SIL 3 EN ISO13849-1 PLe		
Ambient temperature	-30 °C ... +70 °C (4)		
	no condensation permitted		
Storage temperature	-25 °C ... +85 °C		
Protection category	IP00 (thick coated)		
Coated	yes, thick coated		
Allowable shock and vibration stress	≤15*g*, T ≤11 ms 10 ... 55 Hz, 0,5 mm amplitude		
Weight	27 g		
Dimensions (W / H / D in mm)	43 / 10 / 30		

(1) **BWR2426, BWR2521, BWR3067:**
For proper functionality of the LED display, the slave has to be in data exchange with the ASi master.

(2) loop resistance: ≤ 100Ω

(3) outputs short-circuit protected

(4) temperature range up to -30°C from Ident.No. ≥16287 (BWR3067); Ident.No. ≥16288 (BWR2426); Ident.No. ≥16289 (BWR2521)

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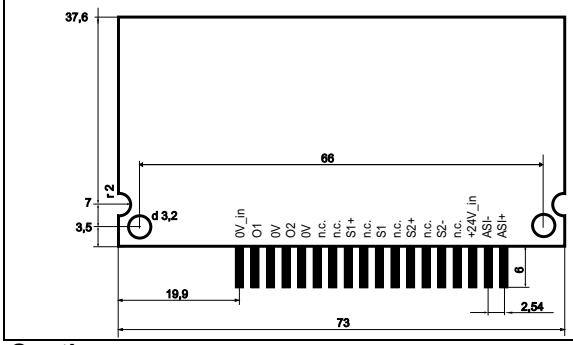
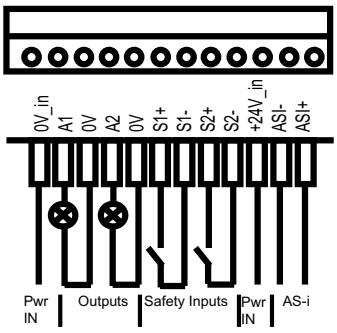
Programming:	ASi Bit-setting			
	D0	D1	D2	D3
	Safe input			
BWR1751, BWR1896, BWR2426, BWR2521, BWR3067	S1	S1	S2	S2
	Output			
BWR1751, BWR1896, BWR2426, BWR2521, BWR3067	O1	O2	-	
	Parameter bit			
	P0	P1	P2	P3
BWR1751, BWR1896, BWR2426, BWR2521, BWR3067	not used			

Signal	BWR2426 / BWR3067	BWR2521
ASi +	BN	BN
ASi -	BU	BU
S11, S12	RD, RD	Pin, RD
S21, S22	YE, YE	Pin, YE
O1	WH	WH
O2	GR	GR
0V	BK	Pin, BK

BWR1751



BWR1896

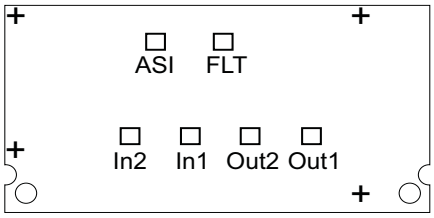


Caution:

The modules can not be used with the OEM carrier board BW1484.

LED assignment

BWR1751 / BWR1896



BWR2426 / BWR2521 / BWR3067